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ABSTRACT

The microcomputer has five basic applications in marketing education--a remedial/tutorial application, instructional purposes, simulation, the project data base, and classroom management. Examples of word processing applications of a microcomputer are updating annual training plans and producing letters to advisory committee members, parents, and others. One further application that is a little broader is a computerized tabulation system for competitive event of Distributive Education Clubs of America. Other applications are utility programs, not an application for student use, but for teacher use of microcomputers. The steps in equipment (microcomputer) purchasing are looking at needs, and then considering the hardware. If a microcomputer-lab situation exists, networking must be considered. Three types are video networking, printer networking, and computer networking. (YLB)

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# FIVE BASIC MICROCOMPUTER APPLICATIONS FOR MARKETING EDUCATORS

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
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Speech presented at the AVA Convention, December, 1982 by
Richard F. James
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Edited Version

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I got up bright and early this morning because an interesting phenomenon happened in the Midwest--you could actually see the sun. That sun hasn't been around much for the last ten or twelve days. I walked down to the Arch overlooking the Mississippi River and I was watching the water go by, watching the sunrise, and reflecting on what I was going to say today. It was kind of a nice pastoral scene and I got to thinking that tomorrow the sun's going to come up again and the river is going to keep on rolling along like the old song says, regardless of what we do in marketing education about microcomputers. The sun doesn't care and the river doesn't care.

Now it's getting to the point where I think that if we don't start approaching this microcomputer issue more seriously--because I'm getting the feeling that I think a lot of people aren't really concerned about the impact of microcomputers in marketing education--we are going to lose out on an excellent opportunity to draw technology into the classroom. I'm only saying this because I've been working with them for about 3 years, giving a lot of workshops, presentations like this one, teaching a microcomputer applications course. We see a lot of initial interest, but then the crucial follow-up when it really boils down to the individual teachers continuing on their own--I don't see a lot of that. Their excuses are such as I don't have time, too busy, have another fund raiser to worry about. I think we're going to have to take the time because what I'm finding now is that other areas are coming into the microcomputer field and doing things--like English, and guess what English is teaching--word processing--and I think those of us who are in

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broadfield business education know what happened several years ago about consumer economics. So, I think it behooves us to start taking this thing a little more seriously. Now, you're not going to in the half hour I have with you or workshops you may go to. That's just going to scratch the surface. You're going to have to make a commitment and there are a lot of states doing lots of things. For example, it's going to take a little bit more than just saying "Well, I've got two hours. Can you come out and show me how to use the microcomputer?" No. I can give you some demonstrations. I can give you a little knowledge, but it's going to take a considerable time commitment on your part because it's something new.

Some of the other kinds of things I've talked to teachers about are--why aren't you doing something with micros? Don't you have computers in your classroom or don't you have access to them? "Sure," they respond, "we have them." "Why don't you use them?" I ask. I haven't really got an answer yet. It's not that difficult to learn, but it does take a professional commitment.

What I hope to do today is talk about a few things and give you some of my thoughts. I guess the initial place to begin is to give you a little personal background. We have a course at Whitewater that I developed with Don Zahn, who is in business education. We developed a course three years ago called "Microcomputer Applications for Vocational Educators." Basically what we have done in this 2-credit course is try to turn people from zero microcomputer literacy, where most of them are, and bring them along to a point of computer literacy and also basic applications and some microcomputer methodology. Now, what we have found from the 250 teachers who have gone through the course in the last 2 1/2 to 3 years is that, yes, there is a definite need for microcomputer literacy and application in vocational education. But, also we had elementary teachers, music teachers, foreign language teachers,

even math teachers, because there doesn't seem to be a lot done other than courses that spend a lot of time on programming--period. Let me give you my personal bias about that. I don't think it's necessary. I don't even think it's essential that you know programming to be able to effectively utilize the computer in the classroom. I think the software sophistication is going up. It's become easier and easier to use the software, or the courseware as I guess is the new term. Therefore, I don't think it makes you understand the thing any better if you take a computer class first before you take some type of basic computer applications. I think once you get into it, if you're turned on by it, you want to putsy around with it, I think that's fine.

About a month ago I went out to a school where my student teachers were attending a workshop. Karl Powell always very graciously volunteers a Milwaukee school for viewing of specialty programs in MDE. At that school a home economics teacher came out and said, "Do you work with microcomputers?" I said, "Yes," and she said, "Can you help me out?" I said, "Well, what are you doing?" "Well, I'm trying to write a program to help me keep track of my inventory for my kitchen." I said to her, "What are you using? What kind of inventory?" "No," she said. "I'm writing one." That's crazy. You can go out with $20 and buy an inventory program. You can go out--and those of you who have messed with programming, and a lot of us have probably taken it--you don't sit down on a weekend and write a program. Well, anyway, that's my bias about programming and what kind of an impact it has on whether or not you can effectively utilize the microcomputer in the classroom. Also, it is important that if you sign up for a workshop and you people are not very computer literate, for example, that you have access to them. I don't think it's a good idea to come in for just a show and tell approach.

We have a lab with 15 Apples that we were able to get through a grant for a teacher preparation program. We put two students per station. It has worked out very well for this course that we developed. They need the hands-on. They're much more comfortable once they sit down and learn the routines and make mistakes and go through the various kinds of procedures we put them through. Some of you, if you disagree with me, maybe we'll have a few minutes at the end to get into some questions.

I think another thing that you have to explore, and there's a lot of districts now starting to address the keyboarding issue, is where it should be--because, once again, if we're going to, in our discipline of marketing education, utilize the keyboarding skills and techniques and all that, I think they're going to have to be able to effectively do that--know keyboarding. Now, whose responsibility is it? Well, it's got to be somebody. There are several school districts in Wisconsin which are incorporating a six-week keyboarding course at the fifth grade level. You are reading about a lot of school districts doing that, and I think you kind of need to keep an eye on that because, once again, that's a skill that has to be developed. It's no different than training students how to run the cash register. A lot of data/cash registers are now ten-key for example, so I think we need to worry about keyboarding.

Let's take a look at what I consider some basic applications. Once again, if you read the professional jornals, they're going to give you different kinds of, what they consider, basic applications. I am going to give you 5 basic applications and some examples of what we're doing. Then if any of you have some ideas you're doing locally, maybe you'd want to share them.

Let's first of all look at where the microcomputer, other than the computer science use, probably really got its toehold in education. That was primarily remedial/tutorial application. A number of the first kinds of courseware

programs were little math programs. I think all of us know as high school teachers, or any kind of teachers, that students come in with different abilities and that always seems to be a big area that we have to devote a lot of time to. Therefore, the first application is for remedial purposes. This remedial application on upgrading basic skills has a tremendous number of software available at a nominal fee. Some of these I just put down on the overhead are ones that we have in our particular courseware library. Overall, we have probably one to two hundred programs, and there are some very nice ones which are the remedial/tutorial type. They are very motivational. I also think it helps you individualize your instruction. There are all kinds of applications that you can use it for in this sense--where you are showing them not just the acquisition of the skill, but showing them where the skill is going to lead to. So this is one application that we talk about.

Another application is for instructional purposes. This is when you're presenting new information. For example, we have one program in advertising and several in market research. We really had an opportunity by using a market research program to have students go out and do some applied research and have them present their findings on the microcomputer. They have some very nice ones in the area of market research with graphs, charts, bar graphs, line graphs. You can even demonstrate market research by using these programs. There is another one we have--advertising--that does a very nice job. Once again, you can use this as an instructional tool. One of the teachers I talked to on why they were not using the micros actually said "It's just a passing fad."

We've had computers around a lot longer than this guy's been around and so if he thinks it's a passing fad, then it shows why we are in some difficulty in micro literacy in the MDE curriculum. I guarantee you whether we like it

in marketing/distributive education or not, business is doing it and they're going to continue to do whether we do it in our curriculum or not.

The third application is simulation. I think this is probably one of the easiest ways in which you can initiate/introduce the microcomputer in your classroom. It does all the work for you. Now, those of you who have ever taught anything that required a lot of grading and evaluating know that it is very, very time consuming to sit down and analyze those papers. I taught typing for one year. My department chairperson in her infinite wisdom decided marketing people aren't too good at teaching skills, so she moved me out of typing; but I do remember that in typing, one thing that stuck in my mind was besides being very repetitive was the quantity of time that I spent in looking over the students' production. That kind of thing drove me crazy, not only because of the time required to look at it, but no additional time to evaluate it--to evaluate the mistakes-- in a sense what kind of mistakers they are making. Well, there are courseware programs out now that do all that. They'll tell you if you have a problem with your little finger on your right hand. It'll give you a bank of words to practice on. It does all that diagnostic work for you. Some of the simulations in marketing/distributive education are really exciting. A new one that I just purchased is called Cartels and Cutthroats. This is one that I have used. I have an Introduction to Business class for freshmen and sophomores and will be using this program next semester. I have already set the whole simulation up. The students will form teams and have a semester-long competition with each other. About every other week they will turn in their team decisions based upon production, upon research and development, advertising, selling price, building new plants, borrowing moves--all those kinds of decisions that they have to make, and we'll run it via the micro. In the old days, if you did something like that, you'd have to spend a lot of time calculating and evaluating their decisions. Now the microcomputer does it in a

few seconds and you get your output immediately. I'll then post the results. The students will have a chance then to see how they did in comparison with the other teams. Once again I think this simulation has tremendous potential.

I'm also trying to convince our WDECA--Wisconsin DECA--Secondary to let me do this as sort of a conference activity for our spring Career Development Conference. I think this would be a nice little activity where students representing chapters around the state would come in as a team along with a judge who might be their training sponsor or advisory committee member to act as a consultant. They would form teams and spend three or four hours playing this simulation just to see what happens. Again, I think we have some real potential in this particular area. Another plus is that they are easily administered because of the support documents. This simulation is something that you can do with one microcomputer.

Schools have two philosophies about micros. One is to have a lab of micros and all teachers have access to them. The other one is to have them in individual classrooms. Some teachers say, "What can I do with just one?" That "what can I do with just one" attitude is another excuse I hear a lot. Simulation is one nice application you can do with just one. The only problem you have to concern yourself with in simulation is the type of output; such as via hard copy or via a monitor. In simulation, you don't really need the screen to project the results on, because it's not like you're showing it to the whole class. If I was up here demonstrating programs today, no one past the first row or two would be able to see the results on the monitor unless you had a network of monitors set up or a large projector piece of equipment. I'll talk about networking in a second.

There are some nice marketing simulations coming out. However, a lot of them are similar in nature. There were not too many of these simulations until

about this year. One of the first ones that Apple put out was one called "The Lemonade Stand" and if you want a real simple one that will take you about five minutes to understand, start out with "The Lemonade Stand." It is a very simple simulation. It does a very nice job illustrating some marketing concepts and by using this one you can get your feet wet. If or when you get into some of the other simulations, you've got to spend the time to learn the ins and outs. You've got to go through it a number of times. You've got to understand what it does. Otherwise, it will be a disaster when you try to use it on students. It's like the IDECC LAP. If you ever gave one to a student without reviewing it first, they start coming around asking where's this, where's that. It makes you look foolish. You can't do it that way. You've got to devote the time and energy and effort to learn the courseware. The simulation does all the processing for you quickly. You get the results back immediately and that's the nice thing about it. Plus, you only need one machine. The hard part is the managing of it.

The project data base is the fourth type of application. This application is basically what's being done in the real world, e.g. business. Those of you who were here on Friday afternoon and listened to the research part of the conference heard about some basic kinds of micro uses that business people are doing and the initial one was primarily in the accounting area. That's primarily what a lot of businesses are currently using microcomputers for. I think you are going to see that changing. I think they are going to get much more sophisticated in the use of the micro. We already know that there are systems where you hook up your cash register and it records directly on the micro all the inventory. But this project data base application is primarily taking business type of software or courseware and that is actually being used in business, such as Visicalc, the Controller Accounting Package, the Data

Factory which is an inventory system. What could you use this application for? You could use it for all kinds of things. I had a grad student, for example, doing an independent project this past summer, who set up her school store inventory using the Visicalc program which is a very nice system to use. I Think all of us who have ever run a school store know that the bookkeeping usually is the thing that drives us crazy the most. So, you have a chance now. Obviously, I've found out in talking with people they say, "Well, gee, I don't have time to learn the system. It takes too much time." And that's true. But, if you put in that additional initial investment and work in getting it set up, the long term effect will be a decrease in time.

The last application is Classroom Management. This is where I really think that a lot of teachers, if they really think about it, are going to save themselves a lot of time. They are also going to be able to do some things that they haven't been able to do in the past. For example, grading--there are electronic grade books out that will do all the calculations for you. Also, these programs will analyze exams. Another management application deals with a couple of projects at Whitewater that I am working on. Next semester we're doing two applications in this area--one is on training plans. For example, I really see two approaches to the training plan in relationship to the micro. One is like the IDECC system was or still is. But it used to be where you would give them the competency numbers and they would print out the list of competencies for each student. So you're really looking at a listing of competencies. You turn in the number. Boom, off it comes. That's one.

Another application is more of a word processing application to training plans. That is, once you format the plan, and if you use primarily the same training stations with the same types of jobs every year, all you have to do is go back and do a little editing and the whole thing comes up as an original.

Therefore, every year you continue to develop a bank of training plans and all you have to do is make some minor adjustments on job duties.

Another word processing application could be letters to advisory committee members; for example, letters to parents for the program. All these kinds of tasks that you didn't have time for before or else couldn't coerce somebody else to do, you now have an opportunity because of the word processing capabilities of the micro. I use this application a lot now. In fact, for our DECA conference I volunteered our microcomputer lab so we can do all the letters to the judges. We have sent each one a personalized letter. You can buy some very nice word processing courseware now that doesn't even require special kinds of hardware other than a quality printer.

One other application I guess I should mention to show a little broader application is DECA Tabulation. When I first came to Wisconsin I wanted to try to help as much as I could, so I said to the state DECA Advisor, "When I was in Kansas, for example, and helped do the state conference there, we developed a computerized tabulation system for DECA competitive events." The state advisor said, "Well, Karl Powell has been the cornerstone of tabulation for state for years and years and years and years. Don't talk to him about it because he's a little sensitive about it. Basically, he's a nice guy, but he always gets a little hysterical when it comes tabulation time." You can understand any time it's just three or four o'clock in the morning and you're still struggling, anybody could get a little sensitive. So, I convinced Karl. I was new, you see. He didn't know me that well. He knew I was from Kansas. He's from Kansas. So that was one thing we had going for us. But he believed me. "Let's go ahead and try it." The first year we still used the mainframe. We used a terminal. Two years ago we switched over to the micro. Last year

was the first time I've ever seen Karl smile--we had everything compiled with the printout of the results at 6:30 p.m. We started at about 10 o'clock in the morning and finished entering the scores about 4. At 6:30 we were done. Everything was done. All winners had been determined and for the first time ever the tabulation crew could go to the banquet at 7 p.m. We've been able to upgrade the system and now have virtually a foolproof system.

An example of instruction application would be in the area of guidance and counseling using the micro. In Wisconsin, just in passing, we have what's called a Wisconsin Career Information System, and the career information used to be stored on the mainframe. Now, they have started to put the same career information on floppy disks so all schools can use the system without needing a terminal. When students want to explore careers they sit down with the microcomputer and effectively research different kinds of jobs or job descriptions, or what kind of personality traits it takes for those jobs.

There are a couple other applications that don't really fall within the five categories that I think you need to be aware of. They are called utility programs. There are a couple of points I want to make first. I have found that when I have gone out and done inservice for teachers and when I demonstrate the software, the first thing they ask me is "Can I get a copy of that program?" My reply is "No. You can't get a copy of this." Only because, number 1, it's against the law. You can't go around copying. Also because there are a lot of sophisticated kinds of programming things done now as part of the publisher's attempt to quit this illegal copying since it is such a real problem. This is a big issue now facing the courseware developers. They are asking themselves "How do we protect our investment?" I would be mad, too, if I was a programmer and spent thousands of hours developing a program and somebody was running around copying it and giving it to all his or her buddies. You have to kind of

keep in mind the ethics that are involved here. More courseware developers are coming out now with replacement policies that are fairly good, where they will say, "OK, if you send us back the damaged disk for $10 we will replace it." Or, they'll send you two originals, or they will, as McGraw-Hill has, say that you can copy it one time. It's been rumored that some publishers are coming out with a system where if you try to copy the disk, it destroys itself. Apple is one of the few that come out and say, "Hey, I don't care, copy it all you want." If you have those public domain programs, then it is available to copy and there are no copyright laws. But, our dilemma as teachers is if you are investing money into software or courseware, it's like anything else, do you give the students the original? Usually not. I never did. So, we usually try to back ours up. Now, what we have found, though, in writing publishers, and they've been fairly good about this, they will send us another copy if we tell them we have a course and are preparing teachers. We also have the Locksmith copy program to back up disks.

So, these programs really fall into utility programs, not really an application your students would use, but mainly some kinds of things that you would use, that you could use the microcomputer for. Like your copy program, if you have a two-disk system, it's a nice program to have.

Something else I want to talk a little bit about before my time is up are the two approaches of housing the micro. I said before, one is the lab situation, which I consider ideal, because I think you can better utilize the equipment if you have access to more machines. For example, I went out to a school last fall and this accounting teacher said "Let me show you what my administration bought me last spring." It was an IBM personal computer still in the box. It hadn't even been unwrapped yet. And I said, "Are you planning on using it this year?" "Oh, no, no. But isn't it nice?" "Oh, yeah, it's

great. But what have you done with it?" I asked him. Unfortunately, what I have found also in talking to teachers is, number 1, they do this equipment purchasing backwards. If some of you haven't gotten involved in the decision-making and your district is starting to get involved in micros, I would strongly recommend that you get your foot in the door, because what do most administrators look for when they buy things? Price. That's all wrong. You look first at what are your needs. That's your first consideration. What are your needs? What are you going to use it for? That's your first item. Because, depending upon what your needs are is going to have a tremendous impact on what you are going to end up with. Needs first. Once you can identify what you are going to use it for, then the second item is to look at the availability of existing courseware that meets your needs. That will dictate then the hardware that's required for those programs. Unfortunately a lot of administrators buy the equipment first and they'll say, "Here it is." You may or may not have some of the kinds of software that you want to use. All programs are not available for all machines.

You have to realize there are a tremendous number of manufacturers out there. One way to have access to software without a tremendous amount of capital is to buy into a consortium. This allows you to have access to a tremendous amount of courseware. But, please look at your needs first. Look at the courseware second. Then look at the hardware, because somebody was telling me, I think at the last session, their administrator bought them a 16K machine. You can't do a darn thing with a 16K machine unless its expandable. You just can't. In our particular lab, I'll just give you our rationale on why we purchased what we did. A lot has changed in the three years since we bought our machines, so we can't really say that everything is still the same. We bought Apples because our Department of Public Instruction recommended them. They were one of the few

micros that had color graphics, plus they had tremendous availability of software in education and business. TRS 80 at the time didn't have color graphics and we felt color was an important enough feature to include, especially in the remedial area, because we are doing some things now in special education.

Like I have stated, don't resolve yourself to say, "Well, gee, I don't have any input on what we buy." Show the interest. Get in there and do a little homework and go in there and show them why you need the micros and what you're going to do with them, because otherwise they may end up saying, "Well, I can buy this brand for $10 less than I can buy that brand." And maybe that $10 is going to be the difference between a machine you can really effectively utilize and one that you cannot.

The final point I want to talk about is networking. Networking comes into play if you have a micro lab situation. There are three types of networking. One is video networking, and this is what we have in our lab, because we bought all this equipment; the hard disk system really hadn't been developed at that time. The hard disk has since come of age, but there are some problems with the hard disk. We have 16 stations; each station has two disk drives. Consequently, anytime we want to demonstrate a program to the whole class, we have two choices. Either you have everyone hover around one little screen, which is not good, or we have to load the program for each of the 16 stations. That is time consuming. What we did was to hook a video network cable system up where we have one master station and 15 receiver stations. Consequently, the students can remain at each of their stations and view on their screens what we are demonstrating at the master station. When the demonstration is over, they switch back to their own microcomputer and continue with their work.

The second type of networking is printer networking. We have three word processing stations and only one word processing quality printer. Rather than

have students waiting for the microcomputer that is hooked up to the printer, we have set up a switching sequence for three micros to interface with the one printer. Therefore, we are better able to utilize the printer and allow more students to work on word processing applications. There are a variety of types of switches that can be purchased for this type of networking. We bought an inexpensive manual switching device for around $150.

The last type of networking is computer networking. This type of networking is where you set up a central retrieval disk unit that all micros can access. There have been schools that have set up hard disk systems to do this. Then each of the microcomputers is no longer acting as an independent unit, but rather as a computer terminal. By using a central retrieval system, you cut down on the number of disks that you have to handle. If you have your programs loaded on the hard disk system, each microcomputer station can indcpendently access the programs. The only drawback is that you cannot put all programs on hard disk. Courseware that cannot be copied by simple copy programs cannot be loaded on hard disk. This is a problem now that some of the publishers are trying to deal with.

In closing I would like to just caution you. If we don't get with the technology program and see what is happening in the business world in relation to microcomputers, someone else is going to step in and do it for us. If that happens, then that is just one less reason for keeping our discipline. You have to make a commitment to spend the necessary time and energy to gain computer literacy to the point where you can successfully integrate the microcomputer into the classroom. The microcomputer is not going to be a substitute teacher but rather a teaching tool with unlimited potential that will only be limited by your own creativity. Thank you.